



Yoga as an Adjunctive Therapy for Posttraumatic Stress Disorder: Lessons Learned and Next Steps

Damara C. Cockfield, MPA
Samueli Institute
Program Coordinator, Military Medical Research



**Study conducted by the
Samueli Institute and
sponsored by the
Department of Defense,
MILCAM 2003 contract
MDA905-03-C-0003 with
the Uniformed Services
University of the Health
Sciences**



*in collaboration with the Deployment Health
Clinical Center at Walter Reed Army Medical
Center*

Epidemiologic Documentation Studies (EDS)

- ★ First year of EDS includes three pilot studies conducted at military medical facilities:
 - ✗ **AATAPS (Auricular Acupuncture in the Treatment of Acute Pain Syndromes)**, conducted at Malcolm Grow Medical Center at Andrews Air Force Base
 - Status: Closed. Results published in *Military Medicine* (Goertz CM, Niemtzow R, Burns SM, et al. *Military medicine*. 2006 Oct;171(10):1010-4)
 - ✗ **A Pilot Study of Chiropractic Prone Distraction for Subacute Back Pain with Sciatica**, at National Naval Medical Center
 - Status: In progress
 - ✗ **Yoga as an Adjunctive Therapy for Posttraumatic Stress Disorder: A Feasibility Study**, at Walter Reed Army Medical Center's Deployment Health Clinical Center
 - Status: Closed

Disclaimer

The views expressed in this presentation are solely those of the author and are not the official position of any associated university, foundation, medical center, or U.S. government department.



Study Staff

Co-Principal Investigators

COL Charles C. Engel, Jr., MD, MPH (WRAMC DHCC)
Christine Goertz Choate, DC, PhD (Samueli Institute)

Samueli Institute Research Team

Damara C. Cockfield, MPA (Study Coordinator)
Joan A.G. Walter, JD, PA-C (Collaborating Personnel)
Matthew Fritts, MPH (Collaborating Personnel)

WRAMC DHCC Research Team

David W. Armstrong, PhD, FACSM (Associate Investigator)
Kristie Gore, PhD (Associate Investigator)
Michael Freed, PhD (Interviewer)
Dr. Thomas Roesel (Medical Monitor)

Consultants

Rachel Greene (Yoga Nidra Instructor)
Robin Carnes, MBA, RYT (Yoga Nidra Instructor)
Richard Miller, PhD (Yoga Nidra Consultant)



Presentation Outline

- ★ Background: Yoga Nidra
- ★ Study Objectives
- ★ Study Design
- ★ Study Subjects
- ★ Study Methods
- ★ Study Outcome Measures
- ★ Demographics and Stats
- ★ Results
- ★ Challenges
- ★ Potential Solutions to the Challenges
- ★ Conclusions
- ★ Next Steps

Background: Yoga Nidra

- ★ The practice of Yoga Nidra focuses on reducing physical, emotional, mental, and subconscious tension, while teaching one to deeply relax.
- ★ To date, there are no clinical trials that have assessed the effect of Yoga Nidra on symptoms of PTSD; although, several studies have looked at the effect of yoga on stress in general.

Study Objectives

- ★ Describe rates of intervention compliance
- ★ Describe symptom reductions associated with this intervention
- ★ Discuss the feasibility of conducting a larger clinical trial with an active duty population

Study Design

★ Feasibility Study

★ **A single cohort:** (n=7)

★ **Duration:** 9 weeks

★ **Dosage (Yoga Classes):** 18 classes

- Class Length: 75-90 minutes

★ **Dosage (Home Practice):** 41 days

- Subjects provided with 3 narrated Yoga Nidra CDs to be used on the days that the class did not meet.

Inclusion Criteria

- ★ Active Duty military personnel
- ★ At least 18 years old
- ★ A minimum score of 40 on the Posttraumatic Stress Disorder Checklist (PCL)

Study Methods

- ★ **Location:** Yoga Room at the Integrated Cardiac Health Project (ICHP) --- Walter Reed Army Medical Center (Washington, DC)
- ★ **Class Time:** 0800 to 0930
 - ✗ Week 1: Monday, Tuesday, & Thursday
 - ✗ Week 2-8: Monday & Thursday
 - ✗ Week 9: Thursday
- ★ **Class Materials:**
 - ✗ Air Mattress
 - ✗ Blankets
 - ✗ Pillows
 - ✗ Journal
 - ✗ 3 Audio Compact Discs with narrated Yoga Nidra Program

The Classroom



Study Methods: Class Structure, an Iterative Process

- ★ **Week 1 (Classes 1-3):** Orientation; Introduction; *Body Awareness & Breathing Awareness and Counting; Developing Inner Resource & Healing Desire*
- ★ **Week 2 (Classes 4-5):** Introduce *Body Sensing*; Introduce concept of working with *Opposite Feelings*
- ★ **Week 3 (Classes 6-7):** Strengthening skills learned, to date
- ★ **Week 4 (Classes 8-9):** Introduce concept of *Opposite Emotions*
- ★ **Week 5 (Classes 10-11):** Introduce concept of *Opposite Beliefs*
- ★ **Week 6 (Classes 12-13):** *Cultivating Inner Strengths*
- ★ **Week 7-9 (Classes 14-18):** *Continue Full Practice - Body Sensing, Body Awareness, Opposite Feelings, Opposite Emotions, Opposite Beliefs, Inner Strength, and Healing Desire*

Outcome Measures

Measurements	Baseline	Midpoint	Endpoint
PTSD Checklist – Military Version (PCL-M) *	★	★	★
Compliance & Adherence to Protocol Measures*	★	★	★
SF-36v2™ Health Survey: Your Health & Well- Being*	★	★	★
Patient Health Questionnaire	★	★	★
PD-HAT Trauma Questions	★		
State Trait Anxiety Inventory – Trait Version	★		★
Fear of Loss of Vigilance Questionnaire	★	★	★
Expectations of Treatment Efficacy	★		★
Multidimensional Health Locus of Control	★	★	★
Numeric Rating Scale for Pain	★	★	★

* Primary Outcome Measures

Demographics & Stats

★ Cohort Demographics:

- ✗ 5 male, 2 female
- ✗ 2 Black, 2 Hispanic, 2 White, 1 Pacific Islander
- ✗ Age Range: 24-52 years old
- ✗ Military Status: 6 enlisted, 1 officer

★ Compliance:

- ✗ Overall Class Compliance: 67% (60%*)
- ✗ Overall Home Practice Compliance: 42% (36%*)

★ Dropout Rate: 14% (1 of 7 subjects)

* Statistic includes the Subject who dropped out after week 5.

Results: Compliance

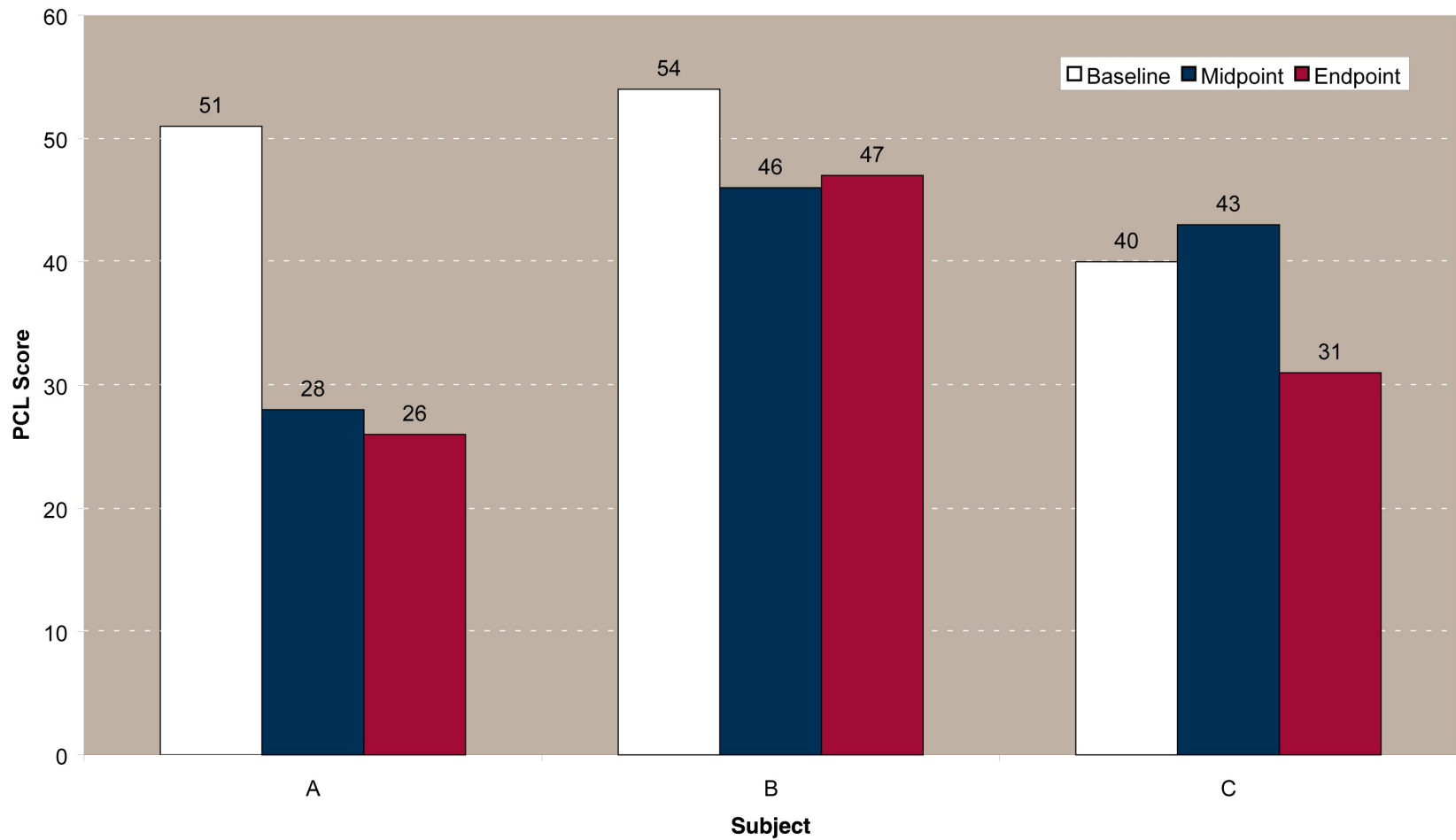
Overall Class Compliance (by subject):

ID#	Cumulative % Compliance
2	78%
7	44%* (22%)
8	94%
9	50%
10	78%
12	61%
13	39%
* Stat reflects compliance from baseline to midpoint. Subject dropped out at Wk 5.	

Overall Home Practice Compliance (by subject):

ID #	Cumulative % Compliance
2	39%
7*	0%
8	20%
9	98%
10	29%
12	63%
13	0%
* Subject dropped out at Wk 5	

Results: PCL Scores



Results: Subject Comments

'I get lost ... my mind wanders ... but when I come back to the practice my thoughts become quiet ... it's empowering knowing you can change the way you feel & your mood.'

'...[Inner Resource] calmed me down & brought peace...'

'I'm experiencing life ... not just living it'

(at the conclusion of the class)
'...I didn't want it to end...'

'... [the classes] are calming and I always have a really good day after the sessions...'

'It's easier to get to sleep now ... and I sleep longer'

(commenting on the class) **'I felt a body shock ... my head had a quick jolt ... my inner resource changed and it was fun ... the body sensation was great ... it was really fun'**

'...I feel more accepting of situations in my life that I cannot control...'

Results: Study Observations

The logo for the Samueli Institute is located in the top right corner. It features a stylized sun or star symbol above the text "SAMUELI INSTITUTE" and "CENTER FOR NUTRITIONAL SCIENCE OF HEALING".

- ★ At study onset, most Subjects were anxious, stressed, and unable to cope with life's stressors
- ★ Subjects provided candid observations of the practice throughout the study
- ★ Most Subjects experienced feelings of self-efficacy and empowerment
- ★ Most Subjects reported using skills (e.g. Inner Resource) learned in class to work with situations in everyday life
- ★ Post-study several Subjects reported that they continued with the practice via their audio CDs

Challenges

- ★ Recruitment
- ★ Single Cohort Aspect
- ★ Time Commitment
- ★ Non-Compliance

Challenges: Recruitment

★ n=7, despite Aggressive Recruitment via:

- ✗ Flyers
- ✗ Emails
- ✗ Grand Rounds Briefing
- ✗ Formation Briefings
- ✗ MD & 1SG Referrals
- ✗ Article in the STRIPE (WRAMC newspaper)
- ✗ In-person recruitment from Primary Care clinic

★ DSM-IV PTSD v PTSD symptomatology:

- ✗ Diagnosable PTSD per the PTSD Symptom Scale - Interview (PSS-I)
- ✗ Some potential subjects with clinical symptomatology of PTSD were ineligible due to the inability to satisfy the DSM-IV Criterion A

Challenges: Single Cohort

- ★ Goal (*Reality*)
 - ✗ Cohort of 15 (7)

- ★ Class Time
 - ✗ 0800-0930
 - ✗ Summer

- ★ Class Days
 - ✗ Mondays and Thursdays

Challenges: Single Cohort

★ Retention

✗ Weekly (daily) emails/phone calls/text messages to retain study interest before and throughout the intervention

Week	# of Classes per Week	Days Classes Will Meet
1	Three	Monday, Tuesday, Thursday
2	Two	Monday & Thursday
3	Two	Monday & Thursday
4	Two	Monday & Thursday
5	Two	Monday & Thursday
6	Two	Monday & Thursday
7	Two	Monday & Thursday
8	Two	Monday & Thursday
9	One	Thursday
All Classes will be from 8:00 AM to 9:30 AM		

Challenges: Time Commitment

By the Numbers

□ Weeks	9
□ Classes	18
□ Home Practice Days	41
□ Assessments	3
□ Total Hours	50 (approx)

Challenges: Non-compliance

★ Reasons for non-compliance

- ✗ Scheduled Leave/Travel
- ✗ Overslept
- ✗ Scheduled (Emergency) Medical Appointments
- ✗ Medication
- ✗ Scheduled Orders: TAD, PCS, etc.
- ✗ Fishing

Potential Solutions to the Challenges

★ Recruitment

- ✗ Expand Inclusion Criteria to include:
 - Active Duty
 - Reserves
 - Veterans
 - TBI patients
- ✗ Expand Inclusion Criteria to include subjects with:
 - PTSD
 - Symptoms associated with PTSD
 - ASD
- ✗ Multiple Locations
 - Military Medical Facilities
 - VA Medical Facilities

★ Single Cohort

- ✗ Rolling enrollment
- ✗ AM and PM classes

★ Time Commitment/Compliance

- ✗ Optimal Dosages: *How much is enough?*

Conclusions

- ★ Yoga Nidra may be beneficial to soldiers with significant symptoms of PTSD.
- ★ A randomized controlled clinical trial may be feasible for soldiers and veterans with significant symptoms of PTSD.

Next Steps

- ★ Future Studies of military populations
 - ✗ RCT of Yoga Nidra as an adjunctive therapy for PTSD
 - ✗ Pilot study of Yoga Nidra's stress/anxiety reducing potential in soldiers Pre-Deployment and Post-Deployment

Thank you for your time.



For more information, contact:

Damara C. Cockfield, MPA

Program Coordinator, Military Medical Research

Samueli Institute

1737 King Street, Suite 600

Alexandria, VA 22314-2847

703-299-4824

dcockfield@SamueliInstitute.org